

TIT-502

32

Printed Pages : 4

Paper Code & Roll No. to be filled in your Answer Book

Roll No.

--	--	--	--	--	--	--	--	--	--

Odd Semester Examination-2016

B.Tech. (Semester-VII)**ARTIFICIAL INTELLIGENCE**

[Time : 3 Hours]

[Maximum Marks :100]

Note : Attempt all questions.1. Attempt **any four** questions: [5×4=20]

- (a) Define AI. Discuss all the applications of AI with the help of labeled diagram.
- (b) Suppose you are given two jugs, a 4-Gallon one and a 3-Gallon one. Neither has any measuring marks on it . There is a pump that can be used to fill the jugs with water. Your aim is to fill exactly 2 Gallons of water into the 4 Gallon Jug? Give the complete state space and set of all applicable/ feasible rules.
- (c) Describe meaning of knowledge representation and knowledge acquisition.

- (d) Explain various types of heuristic. Solve by using crypt-arithmetic technique of constraint satisfaction.

NO

+NO

YES

- (e) What are intelligent agents? Also explain the types of intelligent agent.

2. Attempt **any four**: [5×4=20]

- (a) Explain the A* Algo and illustrate the over estimation and underestimation of heuristics.
- (b) Derive the parse tree for the sentence "Base Loves the Fish".
- (c) Explain ATN with help of a suitable example.
- (d) Draw a CD for the Sentence "John broker the window with the hammer".
- (e) what is semantic nets? Explain properties of semantic nets.

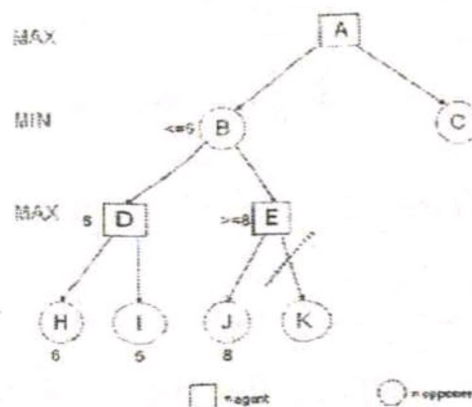
3. Attempt **any two** questions : [10×2=20]

- (a) Consider the following sentences :

- (i) John likes all kind of food
- (ii) Apples are food.
- (iii) Chicken is food.
- (iv) Anything anyone eats and is not killed by is food.
- (v) Jack eats peanuts and is still alive.
- (vi) Jill eats everything Jack eats.

Represent these sentences in predicate logic and prove that "John likes peanuts" using resolution.

(b) Consider the following Game tree :



Solve by using alpha beta cutoff method

(c) Differentiate between Depth First Search and Breath First Search with algorithm.

4. Attempt **any two** questions : [10×2=20]

(a) Explain the “Dempster Shafer Theory” for uncertainty management in expert system with suitable example.

(b) Explain the architecture, components and applications of Expert System. Also explain DENDRAL and MYCIN.

(c) Write short notes on **any two** :

(i) TSP problem

(ii) Supervised Learning

(iii) Computer vision

(iv) Un-Supervised Learning

5. Attempt **any two** questions : [10×2=20]

(a) Write short note on Ant Colony optimization.

(b) Explain the basic architecture of Neural Network and explain its applications in AI.

(c) Give the brief introduction to LISP. Explain the 10 List Manipulation Primitives in LISP.

----- X -----